1/12

JC17 Rec'd PCT/PTO 17 JUN 2005

SEQUENCE LISTING

<110> Takeda Chemical Industries, Ltd.

<120> Preventing and treating agent for cancer

<130> 3130WOOP

<150> JP2002-373144

<151> 2002-12-24

<160> 14

<210> 1

<211> 751

<212> PRT

<213> Human

<400> 1

Met Gly Gln Thr Gly Lys Lys Ser Glu Lys Gly Pro Val Cys Trp Arg

5 10 15

Lys Arg Val Lys Ser Glu Tyr Met Arg Leu Arg Gln Leu Lys Arg Phe

25 30

Arg Arg Ala Asp Glu Val Lys Ser Met Phe Ser Ser Asn Arg Gln Lys

35 40 45

Ile Leu Glu Arg Thr Glu Ile Leu Asn Gln Glu Trp Lys Gln Arg Arg

50 55 60

Ile Gln Pro Val His Ile Leu Thr Ser Val Ser Ser Leu Arg Gly Thr

65 70 75 80

Arg Glu Cys Ser Val Thr Ser Asp Leu Asp Phe Pro Thr Gln Val Ile

				85					90					95	
Pro	Leu	Lys	Thr	Leu	Asn	Ala	Val	Ala	Ser	Val	Pro	Ile	Met	Tyr	Ser
			100					105					110		
Trp	Ser	Pro	Leu	Gln	Gln	Asn	Phe	Met	Val	Glu	Asp	Glu	Thr	Val	Leu
		115					120					125			
His	Asn	Ile	Pro	Tyr	Met	Gly	Asp	Glu	Val	Leu	Asp	Gln	Asp	Gly	Thr
	130					135					140				
Phe	Ile	Glu	Glu	Leu	Ile	Lys	Asn	Tyr	Asp	Gly	Lys	Val	His	Gly	Asp
145					150					155					160
Arg	Glu	Cys	Gly	Phe	Ile	Asn	Asp	Glu	Ile	Phe	Val	Glu	Leu	Val	Asn
				165					170					175	
Ala	Leu	Gly	Gln	Tyr	Asn	Asp	Gly	Asp	Asp						
			180					185					190		
Pro	Glu	Glu	Arg	Glu	Glu	Lys	Gln	Lys	Asp	Leu	Glu	Asp	His	Arg	Asp
		195					200					205			
Asp	Lys	Glu	Ser	Arg	Pro	Pro	Arg	Lys	Phe	Pro	Ser	Asp	Lys	Ile	Phe
	210					215					220				
Glu	Ala	Ile	Ser	Ser	Met	Phe	Pro	Asp	Lys	Gly	Thr	Ala	Glu	Glu	Leu
225					230					235					240
Lys	G1u	Lys	Tyr	Lys	Glu	Leu	Thr	Glu	Gln	Gln	Leu	Pro	Gly	Ala	Leu
				245					250					255	
Pro	Pro	Glu	Cys	Thr	Pro	Asn	Ile	Asp	Gly	Pro	Asn	Ala	Lys	Ser	Val
			260					265					270		
G1n	Arg	Glu	G1n	Ser	Leu	His	Ser	Phe	His	Thr	Leu	Phe	Cys	Arg	Arg
		275		-			280					285			
Cys	Phe	Lys	Tyr	Asp	Cys	Phe	Leu	His	Arg	Lys	Cys	Asn	Tyr	Ser	Phe
	290					295					300				
His	Ala	Thr	Pro	Asn	Thr	Tyr	Lys	Arg	Lys	Asn	Thr	Glu	Thr	Ala	Leu
305					310					315					320

Asp	Asn	Lys	Pro	Cys	Gly	Pro	Gln	Cys	Tyr	Gln	His	Leu	Glu	Gly	Ala
				325					330					335	
Lys	Glu	Phe	Ala	Ala	Ala	Leu	Thr	Ala	Glu	Arg	Ile	Lys	Thr	Pro	Pro
			340					345					350		
Lys	Arg	Pro	Gly	Gly	Arg	Arg	Arg	Gly	Arg	Leu	Pro	Asn	Asn	Ser	Ser
		355					360					365			
Arg	Pro	Ser	Thr	Pro	Thr	Ile	Asn	Val	Leu	Glu	Ser	Lys	Asp	Thr	Asp
	370					375					380				
Ser	Asp	Arg	G1u	Ala	Gly	Thr	Glu	Thr	Gly	Gly	Glu	Asn	Asn	Asp	Lys
385					390					395					400
Glu	Glu	Glu	Glu	Lys	Lys	Asp	Glu	Thr	Ser	Ser	Ser	Ser	Glu	Ala	Asn
				405					410					415	
Ser	Arg	Cys	Gln	Thr	Pro	Ile	Lys	Met	Lys	Pro	Asn	Ile	Glu	Pro	Pro
			420					425					430		
Glu	Asn	Val	Glu	Trp	Ser	Gly	Ala	Glu	Ala	Ser	Met	Phe	Arg	Val	Leu
		435					440					445			
Ile	Gly	Thr	Tyr	Tyr	Asp	Asn	Phe	Cys	Ala	Ile	Ala	Arg	Leu	Ile	Gly
	450					455					460			•	
Thr	Lys	Thr	Cys	Arg	Gln	Val	Tyr	Glu	Phe	Arg	Val	Lys	Glu	Ser	Ser
465					470					475					480
Ile	Ile	Ala	Pro	Ala	Pro	Ala	Glu	Asp	Val	Asp	Thr	Pro	Pro	Arg	Lys
				485					490					495	
Lys	Lys	Arg	Lys	His	Arg	Leu	Trp	Ala	Ala	His	Cys	Arg	Lys	Ile	Gln
			500					505					510		
Leu	Lys	Lys	Asp	Gly	Ser	Ser	Asn	His	Val	Tyr	Asn	Tyr	Gln	Pro	Cys
		515					520					525			
Asp	His	Pro	Arg	Gln	Pro	Cys	Asp	Ser	Ser	Cys	Pro	Cys	Val	Ile	Ala
	530					535					540				
Gln	Asn	Phe	Cys	Glui	Lys	Phe	Cys	Gln	Cys	Ser	Ser	Glu	Cys	Gln	Asn

545					550					555					560
Arg	Phe	Pro	Gly	Cys	Arg	Cys	Lys	Ala	Gln	Cys	Asn	Thr	Lys	Gln	Cys
				565					570				•	575	
Pro	Cys	Tyr	Leu	Ala	Val	Arg	Glu	Cys	Asp	Pro	Asp	Leu	Cys	Leu	Thr
			580					585					590		
Cys	Gly	Ala	Ala	Asp	His	Trp	Asp	Ser	Lys	Asn	Val	Ser	Cys	Lys	Asn
		595					600				•	605			
Cys	Ser	Ile	Gln	Arg	Gly	Ser	Lys	Lys	His	Leu	Leu	Leu	Ala	Pro	Ser
	610					615					620				
Asp	Val	Ala	Gly	Trp	Gly	Ile	Phe	Ile	Lys	Asp	Pro	Val	Gln	Lys	Asn
625					630					635					640
Glu	Phe	Ile	Ser	Glu	Tyr	Cys	G1y	Glu	Ile	Ile	Ser	G1n	Asp	Glu	Ala
				645					650					655	
Asp	Arg	Arg	Gly	Lys	Val	Tyr	Asp	Lys	Tyr	Met	Cys	Ser	Phe	Leu	Phe
			660					665					670		
Asn	Leu	Asn	Asn	Asp	Phe	Val	Val	Asp	Ala	Thr	Arg	Lys	Gly	Asn	Lys
		675					680					685			
Ile	Arg	Phe	Ala	Asn	His	Ser	Val	Asn	Pro	Asn	Cys	Tyr	Ala	Lys	Val
	690					695					700				
Met	Met	Val	Asn	Gly	Asp	His	Arg	Ile	Gly	Ile	Phe	Ala	Lys	Arg	Ala
705				•	710					715					720
Ile	Gln	Thr	Gly	Glu	Glu	Leu	Phe	Phe	Asp	Tyr	Arg	Tyr	Ser	G1n	Ala
				725					730					735	
Asp	Ala	Leu	Lys	Tyr	Val	Gly	Ile	Glu	Arg	Glu	Met	G1u	Ile	Pro	
			740					745					750		

<210> 2

<211> 2253

<212> DNA

<213> Human

<400> 2

60	gcgtgtaaaa	gttggcggaa	ggaccagttt	atctgagaag	ctgggaagaa	atgggccaga
120	agtaaagagt	gagctgatga	aggttcagac	acagctcaag	tgcgactgag	tcagagtaca
180	ccaagaatgg	aaatcttaaa	gaaagaacgg	gaaaattttg	ccaatcgtca	atgtttagtt
240	gcgcgggact	tgagctcatt	ctgacttctg	tgtgcacatc	ggatacagcc	aaacagcgaa
300	attaaagact	aagtcatccc	tttccaacac	tgacttggat	cggtgaccag	agggagtgtt
360	gcagaatttt	ctcccctaca	tattcttggt	acccataatg	ttgcttcagt	ctgaatgcag
420	agttttagat	tgggagatga	attccttata	tttacataac	atgaaactgt	atggtggaag
480	acacggggat	atgggaaagt	aaaaattatg	agaactaata	ctttcattga	caggatggta
540	ccttggtcaa	tggtgaatgc	tttgtggagt	tgatgaaatt	ggtttataaa	agagaatgtg
600	agaaaagcag	aagaaagaga	gacgatcctg	tgatgatgga	atgacgatga	tataatgatg
660	atttccttct	cacctcggaa	gaaagccgcc	agatgataaa	aggatcaccg	aaagatctgg
720	agaagaacta	agggcacagc	tttccagata	ttcctcaatg	ttgaagccat	gataaaattt
780	tcctgaatgt	gcgcacttcc	cagctcccag	caccgaacag	ataaagaact	aaggaaaaat
840	cttacactcc	gagagcaaag	tctgttcaga	aaatgctaaa	tagatggacc	accccaaca
900	tcgtaagtgc	gcttcctaca	aaatatgact	gcgatgtttt	ttttctgtag	tttcatacgc
960	aacagctcta	agaacacaga	tataagcgga	acccaacact	ttcatgcaac	aattattctt
1020	ggagtttgct	agggagcaaa	cagcatttgg	acagtgttac	cttgtggacc	gacaacaaac
1080	ccgcagaaga	gtccaggagg	ccaccaaaac	gataaagacc	ccgctgagcg	gctgctctca
1140	gctggaatca	ccattaatgt	agcaccccca	tagcaggccc	ccaataacag	ggacggcttc
1200	caatgataaa	ggggagagaa	actgaaacgg	ggaagcaggg	acagtgatag	aaggatacag
1260	tcggtgtcaa	aagcaaattc	agctcctctg	tgaaacttcg	agaagaaaga	gaagaagaag
1320	gagtggtgct	atgtggagtg	cctcctgaga	aaatattgaa	agatgaagcc	acaccaataa
1380	tgccattgct	acaatttctg	acttactatg	cctcattggc	tgtttagagt	gaagcctcaa
1440	agaatctagc	ttagagtcaa	gtgtatgagt	atgtagacag	ggaccaaaac	aggttaattg
1500	gaagaggaaa	caaggaaaaa	gatactcctc	tgaggatgtg	cagctcccgc	atcatagctc
1560	ctcctctaac	aaaaggacgg	atacagctga	ctgcagaaag	gggctgcaca	caccggttgt

1620 catgtttaca actatcaacc ctgtgatcat ccacggcagc cttgtgacag ttcgtgccct 1680 tgtgtgatag cacaaaattt ttgtgaaaag ttttgtcaat gtagttcaga gtgtcaaaac 1740 cgctttccgg gatgccgctg caaagcacag tgcaacacca agcagtgccc gtgctacctg 1800 gctgtccgag agtgtgaccc tgacctctgt cttacttgtg gagccgctga ccattgggac 1860 agtaaaaatg tgtcctgcaa gaactgcagt attcagcggg gctccaaaaa gcatctattg 1920 ctggcaccat ctgacgtggc aggctggggg atttttatca aagatcctgt gcagaaaaat 1980 gaattcatct cagaatactg tggagagatt atttctcaag atgaagctga cagaagaggg 2040 aaagtgtatg ataaatacat gtgcagcttt ctgttcaact tgaacaatga ttttgtggtg 2100 gatgcaaccc gcaagggtaa caaaattcgt tttgcaaatc attcggtaaa tccaaactgc 2160 tatgcaaaag ttatgatggt taacggtgat cacaggatag gtatttttgc caagagagcc 2220 atccagactg gcgaagagct gtttttgat tacagataca gccaggctga tgccctgaag 2253 tatgtcggca tcgaaagaga aatggaaatc cct

<210> 3

<211> 2695

<212> DNA

<213> Human

<400> 3

60 caaataaaag cgatggcgat tgggctgccg cgtttggcgc tcggtccggt cgcgtccgac 120 accoggtggg actcagaagg cagtggagcc coggcggcgg cggcggcggc gcgcgggggc 180 gacgcgcggg aacaacgcga gtcggcgcgc gggacgaaga ataatcatgg gccagactgg 240 gaagaaatct gagaagggac cagtttgttg gcggaagcgt gtaaaatcag agtacatgcg 300 actgagacag ctcaagaggt tcagacgagc tgatgaagta aagagtatgt ttagttccaa 360 tcgtcagaaa attttggaaa gaacggaaat cttaaaccaa gaatggaaac agcgaaggat 420 acagcctgtg cacatcctga cttctgtgag ctcattgcgc gggactaggg agtgttcggt 480 gaccagtgac ttggattttc caacacaagt catcccatta aagactctga atgcagttgc 540 ttcagtaccc ataatgtatt cttggtctcc cctacagcag aattttatgg tggaagatga 600 aactgtttta cataacattc cttatatggg agatgaagtt ttagatcagg atggtacttt

660 cattgaagaa ctaataaaaa attatgatgg gaaagtacac ggggatagag aatgtgggtt 720 tataaatgat gaaatttttg tggagttggt gaatgccctt ggtcaatata atgatgatga 780 cgatgatgat gatggagacg atcctgaaga aagagaagaa aagcagaaag atctggagga 840 tcaccgagat gataaagaaa gccgcccacc tcggaaattt ccttctgata aaatttttga agccatttcc tcaatgtttc cagataaggg cacagcagaa gaactaaagg aaaaatataa 900 960 agaactcacc gaacagcagc tcccaggcgc acttcctcct gaatgtaccc ccaacataga 1020 tggaccaaat gctaaatctg ttcagagaga gcaaagctta cactcctttc atacgctttt 1080 ctgtaggcga tgttttaaat atgactgctt cctacatcgt aagtgcaatt attctttca 1140 tgcaacaccc aacacttata agcggaagaa cacagaaaca gctctagaca acaaaccttg 1200 tggaccacag tgttaccagc atttggaggg agcaaaggag tttgctgctg ctctcaccgc 1260 tgagcggata aagaccccac caaaacgtcc aggaggccgc agaagaggac ggcttcccaa 1320 taacagtagc aggcccagca cccccaccat taatgtgctg gaatcaaagg atacagacag 1380 tgatagggaa gcagggactg aaacgggggg agagaacaat gataaagaag aagaagagaa 1440 gaaagatgaa acttcgagct cctctgaagc aaattctcgg tgtcaaacac caataaagat 1500 1560 tagagteete attggeaett actatgacaa tttetgtgee attgetaggt taattgggae 1620 caaaacatgt agacaggtgt atgagtttag agtcaaagaa tctagcatca tagctccagc 1680 tecegetgag gatgtggata etectecaag gaaaaagaag aggaaacace ggttgtggge 1740 tgcacactgc agaaagatac agctgaaaaa ggacggctcc tctaaccatg tttacaacta 1800 tcaaccctgt gatcatccac ggcagccttg tgacagttcg tgcccttgtg tgatagcaca 1860 aaatttttgt gaaaagtttt gtcaatgtag ttcagagtgt caaaaccgct ttccgggatg ccgctgcaaa gcacagtgca acaccaagca gtgcccgtgc tacctggctg tccgagagtg 1920 1980 tgaccctgac ctctgtctta cttgtggagc cgctgaccat tgggacagta aaaatgtgtc 2040 ctgcaagaac tgcagtattc agcggggctc caaaaagcat ctattgctgg caccatctga 2100 cgtggcaggc tgggggattt ttatcaaaga tcctgtgcag aaaaatgaat tcatctcaga 2160 atactgtgga gagattattt ctcaagatga agctgacaga agagggaaag tgtatgataa 2220 atacatgtgc agctttctgt tcaacttgaa caatgatttt gtggtggatg caacccgcaa 2280 gggtaacaaa attcgttttg caaatcattc ggtaaatcca aactgctatg caaaagttat 2340 gatggttaac ggtgatcaca ggataggtat ttttgccaag agagccatcc agactggcga

agagct	gttt	tttgattaca	gatacagcca	ggctgatgcc	ctgaagtatg	tcggcatcga	2400
aagaga	aatg	gaaatccctt	gacatctgct	acctcctccc	ccctcctctg	aaacagctgc	2460
cttago	ttca	ggaacctcga	gtactgtggg	caatttagaa	aaagaacatg	cagtttgaaa	2520
ttctga	attt	gcaaagtact	gtaagaataa	tttatagtaa	tgagtttaaa	aatcaacttt	2580
ttattg	cctt	ctcaccagct	gcaaagtgtt	ttgtaccagt	gaatttttgc	aataatgcag	2640
tatggt	acat	ttttcaactt	tgaataaaga	atacttgaac	ttgtcaaaaa	aaaaa	2695
<210>	4						
<211>	19						
<212>	DNA						
<213>	Artif	ficial Seque	ence				
<220>							
<223>	Prime	er					
<400>	4						
gcgcgg	gacg	aagaataat					19
<210>	5						
<211>	21						
<212>	DNA						
<213>	Artif	ficial Seque	ence				
<220>							
<223>	Prime	er					

⟨400⟩ 5

ggggaggagg tagcagatgt c

⟨210⟩ 6	
<211> 18	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 6	
caagcagtgc ccgtgcta	18
<210> 7	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 7	
agcggctcca caagtaagac a	21
<210> 8	
<211> 25	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Prohe	

<400> 8	
tggctgtccg agagtgtgac cctga	25
⟨210⟩ 9	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> oligonucleotide	
<400> 9	
aaacccacat tctctatccc	20
<210> 10	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
⟨220⟩	
<223> oligonucleotide	
<400> 10	
ccctatctct tacacccaaa	20
<210> 11	
<211> 21	
<212> DNA	

<213> Artificial	
<220>	
<223> DNA/RNA molecule used as a siRNA	
<400> 11	
aaguugaaca gaaagcugct t	21
⟨210⟩ 12	
<211> 21	
<212> DNA	
<213> Artificial	
<220>	
<223> DNA/RNA molecule used as a siRNA	
<400> 12	
	21
gcagcuuucu guucaacuut t	21
<210> 13	
<211> 21	
<212> DNA	
<213> Artificial	
⟨220⟩	
<223> DNA/RNA molecule used as a siRNA	

uucuccgaac gugucacgut t

. .

<210> 14

<211> 21

<212> DNA

<213> Artificial

<220>

<223> DNA/RNA molecule used as a siRNA

<400> 14

acgugacacg uucggagaat t

21